

Title (en)

Tantalum-aluminum oxide coatings for semiconductor devices

Title (de)

Tantalum-aluminium oxid Beschichtung für Halbleitervorrichtungen

Title (fr)

Revêtements d'oxide de Tantalum-aluminium pour dispositifs à semiconducteur

Publication

**EP 0845839 A1 19980603 (EN)**

Application

**EP 97309473 A 19971125**

Priority

US 75863096 A 19961127

Abstract (en)

An active semiconductor device (10) includes a coating (14) comprising an oxide of tantalum and aluminum. The coating may function as an AR coating or as a passivation coating for a semiconductor laser device. Applications to ICs and optical devices are described.

IPC 1-7

**H01S 3/025**; **H01L 21/00**

IPC 8 full level

**G02B 1/11** (2015.01); **G02B 1/113** (2015.01); **H01L 33/06** (2010.01); **H01L 33/30** (2010.01); **H01S 5/00** (2006.01); **H01S 5/028** (2006.01); **H01S 5/022** (2006.01)

CPC (source: EP US)

**H01S 5/0282** (2013.01 - EP US); **H01S 5/02234** (2021.01 - EP US); **H01S 5/0287** (2013.01 - EP US)

Citation (search report)

- [A] US 5440575 A 19950808 - CHAND NARESH [US], et al
- [DA] US 4372987 A 19830208 - GANNER PETER [AT], et al
- [A] PATENT ABSTRACTS OF JAPAN vol. 013, no. 541 (E - 854) 5 December 1989 (1989-12-05)
- [A] PATENT ABSTRACTS OF JAPAN vol. 017, no. 356 (E - 1394) 6 July 1993 (1993-07-06)
- [A] PATENT ABSTRACTS OF JAPAN vol. 004, no. 112 (E - 021) 12 August 1980 (1980-08-12)
- [A] K. NOMURA ET AL: "Electrical properties of Al<sub>2</sub>O<sub>3</sub>-Ta<sub>2</sub>O<sub>5</sub> composite dielectric thin films prepared by RF reactive sputtering", JOURNAL OF THE ELECTROCHEMICAL SOCIETY, vol. 134, no. 4, April 1987 (1987-04-01), pages 922 - 925, XP002058331
- [A] P. GANNER: "Medium index mixed oxide layers for use in AR coatings", SPIE PROCEEDINGS , THIN FILM TECHNOLOGIES II, vol. 652, 15 April 1986 (1986-04-15), AUSTRIA, XP002058332
- [PX] P.C. JOSHI ET AL: "sTRUCTURAL AND ELECTRICAL PROPERTIES OF CRYSTALLINE (1-X)Ta<sub>2</sub>o<sub>5</sub>-x Al<sub>2</sub>O<sub>3</sub> thin films fabricated by metalorganic solution deposition technique", APPLIED PHYSICS LETTERS, vol. 71, no. 10, 8 September 1997 (1997-09-08), NEW YORK US, pages 1341 - 1343, XP000720259

Cited by

CN108479326A; EP1198040A1; DE102007059538B4; DE102007059538A1; DE102006054069A1; DE10048475A1; DE10048475C2; US7033852B2; US9431580B2

Designated contracting state (EPC)

DE FR GB

DOCDB simple family (publication)

**EP 0845839 A1 19980603**; **EP 0845839 B1 20011212**; DE 69709042 D1 20020124; DE 69709042 T2 20020801; JP 3538302 B2 20040614; JP H10173295 A 19980626; US 5802091 A 19980901

DOCDB simple family (application)

**EP 97309473 A 19971125**; DE 69709042 T 19971125; JP 32353797 A 19971125; US 75863096 A 19961127